Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition to Deny	)	AU Docket No. 20-34
Resound Networks, LLC's	)	WC Docket No. 19-126
Long-Form Applications (FCC Form 683)	)	WC Docket No. 10-90
For Rural Digital Opportunity Fund Phase I	)	
	)	

PETITION TO DENY AND REQUEST FOR INFORMAL ACTION

March 26, 2021

Big Bend Telecom LTD
NTS Communications, LLC
Poka Lambro Telecommunications Ltd.
PVT Networks, Inc. and
Valley Telephone Cooperative, Inc.

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EXECUTIVE SUMMARY

The Federal Communications Commission ("FCC" or "Commission") established the Rural Digital Opportunity Fund ("RDOF") to help subsidize the construction and operation of meaningful broadband service to unserved and underserved rural communities. At the conclusion of the RDOF reverse-funding auction, the FCC revealed that Resound Networks, LLC, "("Resound"), a little known Wireless Internet Service Provider ("WISP") with virtually no experience in building fiber or fixed wireless networks capable of delivering 1 gigabit speeds, was awarded more than $310 million in funding to provide gigabit speed services to 219,239 locations in Arizona, Arkansas, Colorado, Kansas, New Mexico, Oklahoma and Texas. As the Petitioners demonstrate herein, it is extremely unlikely that Resound will be able to deliver the broadband services it promises. Instead of leaving the 219,239 homes and small businesses without critical broadband services for an additional six years (at which point Resound will likely default) and wasting hundreds of millions of Federal dollars, the Petitioners hereby urge the FCC to take action now by denying Resound's Long-Form Applications (FCC Form 683) and its RDOF funding.

The FCC should deny Resound's Long-Form Applications because Resound does not have the requisite experience needed to build and operate a fixed wireless gigabit network, and the construction and operation of such a network is financially infeasible. Resound currently provides up to 100 mbps broadband service to its customers using unlicensed point-to-multipoint wireless. However, Resound apparently plans to provide gigabit broadband services in areas where it won RDOF support using point-to-point technology, which Resound has little to no experience deploying. Resound does not currently hold any licensed spectrum in most of the areas in which it won RDOF support and, as such, Resound

apparently plans to use unlicensed spectrum to meet gigabit speeds. Given all the locations Resound is obligated to serve, it would take optimal conditions and technology not yet widely tested for Resound to achieve its buildout. It is economically infeasible for Resound to meet the public interest obligations of RDOF, as engineering analysis has shown that the $310 million of support won by Resound is merely a fraction of what it will cost for Resound to provide the broadband services which it promises.

While there is ample publicly available information for the Petitioners to reasonably conclude that Resound does not have the technological ability to meet its RDOF public interest commitments and that the project is financially infeasible, Petitioners request that the Commission make all of the information contained in Resound's Long-Form Applications available through the standard Protective Order process so that Petitioners and other interested parties can further evaluate Resound's applications. Such disclosure under a Protective Order is in the public interest and will ensure that the Commission's stated RDOF goals are achieved, and that this program will help provide meaningful broadband services to rural America.

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PETITION TO DENY AND REQUEST FOR INFORMAL ACTION

Big Bend Telecom LTD ("Big Bend"), NTS Communications, LLC ("NTS"), Poka Lambro Telecommunications Ltd. ("Poka Lambro"), PVT Networks, Inc. ("PVT") and Valley Telephone Cooperative, Inc., (collectively, "Petitioners") by their attorneys and pursuant to the Regulations of the Federal Communications Commission ("FCC" or "Commission"), hereby petition the Commission to deny the above referenced applications ("Long-Form Applications") of Resound Networks, LLC ("Resound") for Rural Digital Opportunity Fund ("RDOF") support,[1] so as to ensure the deployment of high speed broadband services to unserved rural communities, pursuant to the goals of the Universal Service Fund ("USF") High Cost Program, and to maintain the integrity of the Commission auction process. Because there are no specific procedures for opposing a Long-Form Application in a USF reverse auction, Petitioners request informal action by the FCC pursuant to 47 CFR § 1.41[2] to deny

[1] *See generally,* 47 C.F.R. § 54.801-806.
[2] *See* 47 C.F.R. § 1.41 (stating that "except where formal procedures are required under the provisions of this chapter, requests for action may be submitted informally.").

the RDOF award to Resound on the basis that Resound is not qualified, and therefore ineligible, to receive RDOF support.

Additionally, in order to promote transparency and legitimacy to the process, the Petitioners request that the Commission provide Petitioners and other stakeholders access to Resound's detailed Long-Form Applications information. Such review could be pursuant to the Commission's well-established protective order process to protect sensitive information, as suggested by NTCA in its February 5, 2021 *ex parte* letter.[3] Petitioners anticipate supplementing this Petition with more specific information based on the requested review of Resound's Long-Form Applications.

INTRODUCTION AND SUMMARY

One of the FCC's top priorities is "connecting all Americans, no matter where they live and work" to broadband services.[4] The creation of RDOF, and the subsequent reverse auction, sought to further this vision, by awarding over $9.23 billion of funds to qualified bidders, with the goal of reaching the more than 5.2

[3] *See* Letter from Michael R. Romano, Senior Vice President, Industry Affairs & Business Development, NTCA, to Jessica Rosenworcel, Chairwoman, FCC, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90 (filed Feb. 5, 2021) ("NTCA Transparency Ex Parte"). Petitioners' request is limited to Resound's Long-Form application, however, Petitioners also support third party review, under protective order, of certain winning applications as suggested by the Ensuring RDOF Integrity Coalition ("ERIC"). Under the ERIC proposal, only applications by winning bidders whose Auction 904 bids total $200 million or more and/or whose collective Auction 904 bids include 100,000 or more total locations would be subject to third party review. *See* Letter from Caressa D. Bennet, Attorney for Ensuring RDOF Integrity Coalition, to Marlene H. Dortch, Secretary, FCC (filed Mar. 11, 2021).

[4] *In the Matter of Rural Digital Opportunity Fund Connect America Fund,* Report and Order, WC Docket No. 19-126, WC Docket No. 10-90 (Feb. 7, 2020) ("RDOF Order") at ¶ 1.

million underserved locations across rural America. By awarding funds to Resound, however, a company with no history of providing service even close to the gigabit standards set out by RDOF, the Commission risks undermining its own goal. Indeed, the Commission has expressed concern that winning bidders not "default and strand consumers with no service, unreliable service, or with service that is not reasonably comparable to services offered in urban areas."[5] In her dissent to the *RDOF Order*, then Commissioner, current acting Chairwoman, Jessica Rosenworcel warned: "[T]his is not the broadband plan we need. It is not guided by maps. It is not guided by data. It is guided by a desire to rush out the door, claim credit and pronounce our nation's broadband problems solved."[6] Awarding millions of dollars to an entity with no public history of widely deploying gigabit speeds in rural areas, underscores the Chairwoman's concerns. As discussed *infra,* public policy, and the very spirit with which RDOF was adopted, dictate that the Commission deny Resound's Long-Form Applications to avoid this very scenario.

Petitioners are independent, experienced broadband and wireless carriers that provide telecommunications services to consumers in rural areas throughout the states of Arizona, New Mexico and Texas. Petitioners all submitted short form applications and bid against Resound in the RDOF Phase 1 Auction ("Auction 904"). PVT and NTS were winning bidders in a total of twenty-one (21) census block

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[5] *Rural Digital Opportunity Fund Auction Scheduled for October 29, 2020 Notice and Filing Requirements and Other Procedures for Auction 904*, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90, 35 FCC Rcd 6077, 6113-16 (2020) ("Auction Procedures Public Notice") at ¶ 98.
[6] RDOF Order at ¶101.

groups ("CBGs").[7] Moreover, Petitioners operate in the same geographical area as Resound, and have a vested interest in ensuring that rural communities are adequately served. On information and belief, Petitioners assert that Resound is not financially or technologically qualified to provide the service at the speeds and latency required, and will be unable to meet the performance requirements of RDOF. Accordingly, the Commission should deny Resound's Long-Form Applications.

DISCUSSION

Resound apparently is a provider of Internet services to residential, business, government and enterprise customers and purports to have been in operation since 2016.[8] On December 7, the Commission announced that Resound was selected as a winning bidder in CBGs in Arizona, Arkansas, Colorado, Kansas, New Mexico, Oklahoma and Texas.[9] The Commission also outlined relevant post auction procedures,[10] stating that winning bidders must "file a post-auction application for support, also referred to as FCC Form 683" or the "Long-Form Application," and submit it by January 29, 2021.[11] Section 6.2 of the Long-Form Application stipulates that winning bidders must make detailed disclosures including, but not limited to,

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[7] *See Rural Digital Opportunity Fund Phase I Auction (Auction 904) Closes; Winning Bidders Announced*, Public Notice, AU Docket No. 20-34, WC Docket 19-126 and 10-90 (2020) ("Winning Bidder Announcement").

[8] *Application of Resound Networks, LLC for Designation as an Eligible Telecommunications Carrier for Purposes of Receiving Federal Universal Service Support from the FCC Rural Digital Opportunity Fund,* Public Utility Commission of Texas, Docket No. 51679 (Jan. 5, 2021) ("Texas ETC Application") (Exhibit A) at 4.

[9] Winning Bidder Announcement.

[10] *Id.*

[11] *Id.*

describing how the required construction will be funded; demonstrating that it has sufficient spectrum access for wireless technologies; and providing a Letter of Credit and ETC Certification Letter. Further, a Long-Form applicant must submit a "detailed description of its technology including a network diagram certified by a professional engineer."[12] Nearly one-third of the members of Congress have stressed the importance of a stringent review of the Long-Form applications, so as to "vet the winning bidders to ensure they are capable of deploying and delivering the services they committed to providing."[13]

Unfortunately, Petitioners have been unable to review Resound's Long-Form Applications, since the Long-Form Applications will not be publicly available until after the Commission staff completes its review and renders a decision to approve or deny, and "[i]nformation related to a long-form applicant's detailed technology and system design, its project funding description, and its letter of credit will be treated as confidential and will be withheld from public inspection."[14]

Notwithstanding, as discussed *infra,* it is apparent from publicly available information alone that Resound is not technically capable of meeting the relevant public interest obligations for the performance and latency combination in the geographic areas in which it seeks support. Because, according to publicly available information, Resound has limited experience in fixed wireless technology, that is

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[12] FCC Form 683 *Application for Rural Digital Opportunity Phase I Support, Auction 904, Instructions*, at 22 ("Long-Form Instructions"), available at https://docs.fcc.gov/public/attachments/DA-20-1422A4.pdf.

[13] *See* Letter from Reps. James E. Clyburn and Tim Walberg, Sens. John Thune and Amy Klobuchar, and 156 other Members of Congress to Chairman Ajit Pai, (Jan. 19, 2021).

[14] Long-Form Instructions at 37.

capable of delivering gigabit speeds to all customers throughout rural census block groups. Furthermore, deploying this technology in a way that is financially feasible is unproven and Resound will ultimately be unable to meet the performance levels required by RDOF in the areas in which it seeks support and will leave the residents and businesses in those areas without access to the broadband services they so desperately need.

A. Resound Lacks Experience in Gigabit Fixed Wireless Technology

As part of the Long-Form Application process, winning bidders must demonstrate that they have the technology to meet the requisite performance levels established by RDOF.[15] Applicants "face a high burden to persuade Commission staff that they are reasonably capable of meeting the public interest obligations in rural areas and thus qualified to bid for the Gigabit performance tier."[16] Further, the Commission has acknowledged the limitations of fixed wireless in rural areas, stating that "we expect it will be . . . challenging for a fixed wireless provider to make a case that it can offer a mass market service meeting the Gigabit performance tier public interest obligations in the less dense areas eligible for Auction 904."[17]

Upon public information and belief of the experienced Petitioners, Resound is not capable of making the required demonstration. Resound, an applicant in the gigabit performance tier, acknowledged in its application for designation as an

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[15] Applicants must certify that they are technically qualified to meet the public interest obligations. *See* 47 C.F.R. § 54.804(a)(2). Recipients must deploy service to 40% of their locations by year 3 of the program, 60% by year 4, 80% by year 5, and 100% by year 6. *See* 47 C.F.R. § 54.802.
[16] Auction Procedures Public Notice at ¶ 106.
[17] *Id.*

Eligible Telecommunications Carrier ("ETC") in Texas[18] that most of its customers receive their broadband via licensed or unlicensed point-to-multipoint ("PTMP") wireless connectivity, rather than point-to-point ("PTP").[19] Notwithstanding its limited experience in PTP service, Resound intends to employ just that in carrying out its obligations under RDOF, stating that "[i]n sparsely populated areas, applicant will deploy a point to point network to achieve the gigabit tier and low latency standards."[20] While Resound states that it currently has "active deployments of each technology solution operating within the gigabit tier" standard,[21] it is unclear whether these are mass-market business and residential deployments. Indeed, according to Resound's own website, the current offerings to residential customers are 10 mbps, 25 mbps, 50 mbps, and 100 mbps.[22] Resound's inexperience with PTP and, more specifically fixed wireless gigabit PTP service, flies in the face of the Commission's goals for a smooth roll out under RDOF, and the Commission has itself acknowledged that it would be "unreasonable" to expect an applicant to be able to

[18] Texas ETC Application (Exhibit A) at 5.
[19] *Id.*
[20] *Id.*
[21] *Id.*
[22] *See* Resound Networks Residential Plans, accessible at https://Resoundnetworks.com/residential-service/ (last visited Mar. 25, 2021).

offer gigabit speeds[23] using fixed wireless technology "unless it has a reported history of offering such speeds."[24]

Because Petitioners do not have access to Resound's Long-Form Application spectrum access exhibit, it is unclear what spectrum Resound intends to use to meet gigabit speeds in sparsely populated areas. In its Short-Form Application (FCC Form 183), Resound indicated that it was a registered bidder for the CBRS auction, Auction 105, intended to participate in the 3.7 GHz auction, Auction 107, and would otherwise use unlicensed spectrum.[25] Resound's Auction 105 winnings were minimal in the State of Texas, and non-existent in Arizona, Arkansas, Colorado, Kansas, New Mexico and Oklahoma. Resound holds one (1) to two (2) ten megahertz priority access licenses ("PALs") in the following Texas counties: Donley, Gaines, Hardeman, Hockley, Roberts, Wheeler and Yoakum.[26] Resound was unsuccessful in acquiring any 3.7 GHz spectrum authorizations in Auction 107.[27] Resound won support in over 100 Texas counties in which Resound does not hold a

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[23] In its Auction Procedures Public Notice, the Commission set out different performance tiers which dictate the minimum downstream/upstream speeds. Auction Public Notice at FN 23. Since Resound applied in the Gigabit performance tier, it must meet a minimum speed of ≥ 1 Gbps download and 500 Mbps upload, and low latency (≤ 100 milliseconds or better). *See* Texas ETC Application (Exhibit A) at 11.

[24] *Comment South on Competitive Bidding Procedures and Certain Program Requirements for the Rural Digital Opportunity Fund Auction (Auction 904),* Public Notice, 35 FCC Rcd 2295 (2020) ("Auction 904 Comment Public Notice") at ¶ 51. [25] Resound Networks, LLC, FCC Form 183, File No. 0009148782 (submitted Sept. 23, 2020), Spectrum Access Exhibit ("Resound Short-Form").

[26] *See* ULS License Search, accessible at https://wireless2.fcc.gov/UlsApp/UlsSearch/searchLicense.jsp (Search "Resound Networks")(last visited Mar. 25, 2021).

[27] *See Auction of Flexible-Use Service Licenses in the 3.7-3.98 GHz Band Closes, Winning Bidders Announced for Auction 107*, Public Notice, AU Docket. No. 20-25, DA 21-207 (rel. Feb. 24, 2021), Attachment A.

PAL. Based on Resound's scant licensed spectrum holdings and its Short-Form Application spectrum access exhibit, Petitioners assume that Resound plans to use unlicensed spectrum to meet gigabit speeds.[28] Indeed, a recent WISPA filing, the association to which Resound is a member, cited the unlicensed 60 GHz band as a "realistic option" for gigabit download speeds.[29]

While it may be *theoretically* possible to meet gigabit download speeds using PTP unlicensed 60 GHz spectrum, such a feat would require ideal conditions which Resound cannot possibly show for each of the 219,239 estimated locations it needs to reach.[30] For example, Resound will need to have towers at *least* within one (1) to two (2) kilometers of the locations for PTP and within 500 to 700 meters for PTMP with an absolute clear line of sight (LOS) to the end-user in optimal conditions (which is dependent on weather and the area's rain zone classification).[31] To

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[28] In its initially filed Short-Form Application, Resound notes the 5 GHz, 6 GHz, 11 GHz, 24 GHz, 70-80-90 GHz and 50-71 GHz unlicensed bands. It appears that Resound later amended its Short-Form Spectrum Access Exhibit to include *every* unlicensed spectrum band. It is unclear, however, how Resound plans to use these bands and whether Resound plans to use these bands for backhaul, middle mile, microwave hops or last mile. *See* Resound Short-Form, Spectrum Access Exhibit.

[29] *See* Letter from Claude Aiken, President and CEO of WISPA to Chairwoman Jessica Rosenworcel, AU Docket No. 20-34, WC Docket Nos. 10-90 and 19-126 (Feb. 22, 2021), Appendix A.

[30] *See* Winning Bidder Announcement, Attachment A at 21.

[31] See Technical Consideration Statement from Tom Lewis, VP Engineering JSI, Exhibit B; *see, also,* Letter and Technical Whitepaper from Michael R. Romano, Senior Vice President, Industry Affairs and Business Development, NTCA, to Marlene H. Dortch, Secretary, FCC, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90 (filed Feb. 1, 2021), Vantage Point Solutions Technical Whitepaper by Larry Thompson, PE at 18 (stating all customers must be within ***about 500 feet*** of their specific serving tower/antenna, have clear LOS and capacity and backhaul of the serving tower/antenna must be adequate).

achieve an absolutely clear LOS is rare. As noted by a prospective Resound subscriber:

> [t]hey couldn't help because there [sic] system works off of line of sight. Which means if the system on your house doesn't have a clear path to there [sic] equipment it won't work in your home. Mine was some branches of some trees a block or two away the block [sic] the path.[32]

Even if Resound believes it can achieve absolute LOS to its 219,239 locations, the price of towers, middle mile and backhaul would be economically infeasible.[33] Finally, Resound cannot possibly make it work for all of the locations especially if they have to consider a 2 terabytes minimum monthly usage allowance and a seventy percent (70%) subscription rate, which is a required assumption under the RDOF program.[34]

Resound claims that "[r]ecent technological advances, and the economics of fixed wireless, open vast new areas to the opportunity of receiving broadband speeds that were previously unavailable."[35] The Commission, however, has emphasized that "Auction 904 is not the appropriate venue to test unproven technologies using universal service support."[36] The Commission likewise emphasized the importance of a "proven track record" and "concrete examples" of providing qualifying service "directly to residential customers."[37] Petitioners are

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[32] *See* Google review of Alberto Carrasco, accessible at https://www.google.com/search?client=safari&rls=en&q=Resound+networks&ie=UTF-8&oe=UTF-8#lrd=0x870748259fcb2f93:0xade7e280f175dba3,1 (last visited Mar. 15, 2021).
[33] *See* Section B, *infra*.
[34] Auction Procedures Public Notice, ¶¶ 15 and 77 and note 144.
[35] Texas ETC Application (Exhibit A) at 12.
[36] Auction 904 Comment Public Notice, ¶ 51.
[37] Auction Procedures Public Notice, ¶ 98.

interested to learn what, if any, concrete examples Resound has provided. Sans such examples, Resound's Long-Form Applications should be denied.

B. Resound's Plan is Not Financially Feasible

Even if Resound were able to provide fixed wireless services at the requisite speeds and latency, it is likely that it will not be financially feasible to meet its public interest obligations. According to the Winning Bidder Announcement, Resound was awarded over $310 million to be dispersed over 7 states, with over $94 million allocated to Texas and over $59 million allocated to New Mexico.[38] On public information and based on the Petitioners expertise, this sum of money is merely a fraction of the actual cost of providing broadband access in these locations at the requisite digital speeds and latency.

Before participating in the RDOF Auction, PVT hired a well-known and respected engineering firm to develop a cost analysis of deploying fixed wireless to CBGs in Texas. While the engineering firm recommended PVT bid on the 100 mbps tier, after a detailed review, they reduced their recommendation to the 50 mbps tier to ensure PVT would be able to meet the very strict FCC testing requirements. Thus, PVT, a company with over one hundred (100) years of experience providing telcommunications services, opted to place bids at the 50 mbps tier. The bidding for those CBGs went to percentages of the reserve prices that were far below what the cost estimates showed PVT could justify for the 50 mbps tier. PVT was shocked to learn that the winning bidder for many of those CBGs was Resound, a little known WISP with virtually no existing facilities in the area, and that Resound was

[38] *See* Winning Bidder Announcement, Attachment A at 21.

promising gigabit speeds in the CBGs. For example, PVT's engineering firm estimated a wireless network capable of meeting 50 mbps download would require forty-four (44) towers and approximately forty-four (44) miles of fiber for backhaul at an average buildout cost of **$6,259 per location** to serve eleven (11) CBGs in Hale County and Floyd County, TX. This estimate was dependent on PVT winning all 11 CBGs in the counties in order to create an economy of scale for the county in its wireless build (if PVT had won less than all 11 CBGs, the per location estimate would likely be higher). PVT's estimate also did not include maintenance costs or the costs of customer premises equipment. Resound won five (5) of these CBGs (48-189-9506002, 48-189-9507001, 48-189-9507002, 48-189-9507003 and 48-189-9508002) in Round 19 of the auction for one (1) to two (2) percent of the reserve price,[39] or **$124 per location** (over the entire 10-year support term), to meet *gigabit* speeds.

Big Bend studied the possibility of bidding on the RDOF gigabit tier using the 60 GHz band in a small non-extremely rural CBG case study. Aside from Big Bend's manufacturer engineer stating he would absolutely not guarantee gigabit speeds, the following additional challenges caused Big Bend to not pursue the technology:

[39] 48-189-9506002 with 168 locations was won at one percent of the reserve price or $1,641.48 annually; 48-189-9507001 with 147 locations was won at 2% of the reserve price or $2,745.00 annually; 48-189-9507002 with 48 locations was won at 2% of the reserve price or $276.94; 48-189-9507003 with 68 locations was won at 2% of the reserve price or $411.82 annually; and 48-189-9508002 with 90 locations was won at 1% of the reserve price or $1,381.61 annually. The total annual support for all 521 locations within the five CBGs is $6,456.85 and total ten-year support is $64,568.50. *See* FCC Public Reporting System, Auction 904, Assigned Bids, accessible at https://auctiondata.fcc.gov/public/projects/auction904/reports/assigned_bids (Filter for Bidder Resound Networks, State TX)(last visited Mar. 25, 2021).

(1) the amount of access points for a small area required due to short range limitation of frequency; (2) mountainous terrain would require building some fiber and PTP radios to feed the access points; and (3) the technology, even in non-rural areas, has not been thoroughly tested. When extrapolating these limitations to large rural and mountainous terrain areas included in most of the CBGs that Big Bend intended to bid on (and which Resound ultimately won), the model broke down quickly based on the number of PTP and PTMP access points required (even after figuring in the numerous existing tower sites and fiber Big Bend currently owns in the area). Armed with over fifty-five (55) years of experience providing communications services to the area, Big Bend concluded such a build would be extremely problematic to maintain and sustain reliable service and would drive OPEX cost to unfeasible levels.

Further, in the likely event that Resound will have to resort to fiber to meet RDOF performance requirements, it will not have the resources to meet those requirements. Perhaps Resound does not fully grasp the prohibitively high costs associated with deploying fiber in the areas of Arizona, New Mexico and Texas where it won RDOF funding. The Petitioners, however, have experience deploying fiber in these areas. For example, before participating in the RDOF auction, Poka Lambro, a telecommunications cooperative with over seventy (70) years of experience providing telecommunications services to West Texas, conducted an analysis of the costs associated with deploying fiber to CBGs in Borden, Dawson, Gaines, Garza, Lynn, Scurry, Terry and Yoakum counties in Texas (CBGs where Resound was the ultimate winner). To determine the cost of building fiber to those

CBGs, Poka Lambro reviewed its prior five years of costs for building FTTH cable in and around those counties and determined an average cost per mile of construction. Poka Lambro then developed routes to serve the CBGs based on the location of its existing facilities and determined the mileage of construction required to build a FTTH RDOF project to those CBGs. Poka Lambro's historical costs for building FTTH is $20,288.88 per mile. Poka Lambro calculated 1,013.6 miles of fiber, for a total "mainline" fiber build of $20.6MM in its RDOF analysis area. This number only includes the costs with fiber deployment and not the installation, optical network terminal, central office, maintenance, etc. costs.

Resound won $4.7MM of RDOF support for the same area - only 23% of the support required for fiber by Poka's estimate. This means if Resound were to construct a complete FTTH system, it would need approximately $15.9MM in additional funding to complete the mainline routes, an amount of $7,294 per location. Adding the installation and ONT costs of $1000 per location, Resound would need a total invested capital of $8,294 per location, assuming a generous margin of $75 per subscriber per month and 100% subscriber rate, it leaves Resound with a 2% IRR - not nearly enough to cover debt and certainly not enough to draw private equity investment. The Petitioners have been building fiber since as early as 1984, and as seasoned broadband operators, know the costs of such deployment. Sadly, the Petitioners know that Resound, given existing costs, terrain, and funding, is set up to fail. Such failure will delay much-needed broadband for years to come in areas still in desperate need of reliable Internet connections.

C. The Commission Should Make the Information in Resound's Long-Form Applications Available via a Protective Order Process

While, as discussed *supra*, there is ample publicly available information for the Petitioners to reasonably conclude that Resound has neither the technological or financial ability to meet its RDOF public interest commitments, Petitioners request that the Commission make all of the information contained in Resound's Long-Form Applications available through the standard Protective Order process so that Petitioners and other interested parties can further evaluate Resound's Applications.[40] Almost one–third of the Members of Congress have requested such transparency, stating that they "strongly encourage the FCC to make as public as possible the status of its review and consider opportunities for public input on the applications."[41] Such transparency and accountability will be essential to ensure the success of this program and to minimize any opportunities for fraud or abuse."[42] Establishing a Protective Order to enable third party review of Resound's Long-Form Applications, on an expedited basis, would help to establish the very transparency that Congress is urging. Until Resound's Long-Form Applications can be inspected in a transparent way, the FCC should not proceed in funding Resound's build or grant its Long-Form Applications. Should the Commission deny this request for a Protective Order, the Commission should grant this petition and deny Resound's Long-Form Applications.

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[40] *See, e.g.,* Request for Informal Commission Action, Ensuring RDOF Integrity Coalition, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90 (Filed Feb. 25, 2021). Petitioners support the proposals made by ERIC.
[41] Bicameral Letter on RDOF at p. 1.
[42] *Id.*

CONCLUSION

The Commission has noted that "it is not in the public interest to risk awarding support to an applicant that Commission staff believes is likely to default or be unable to fulfill its obligations."[43] Petitioners urge the Commission to heed its own warning and grant Petitioner's Petition to Deny Resound's Long-Form Applications.

Respectfully submitted,

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March 26, 2021

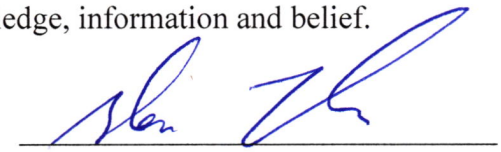
[43] Auction 904 Comment Public Notice, note 291.

Declaration of Glenn Lovelace

I, Glenn Lovelace, do hereby declare under penalty of perjury the following:

1. I am the Chief Executive Officer of PVT Networks, Inc.

2. I have read the foregoing Petition to Deny, and that the factual statements made therein are true and correct to the best of my knowledge, information and belief.



Glenn Lovelace

March 23, 2021

Declaration of Russell A. Moore

I, Russell A. Moore, do hereby declare under penalty of perjury the following:

1. I am the Chief Operating Officer and General Manager of Big Bend Telecom Ltd.

2. I have read the foregoing Petition to Deny, and that the factual statements made therein are true and correct to the best of my knowledge, information and belief.

Russell A. Moore

March 23, 2021

Declaration of Patrick Sherrill

I, Patrick Sherrill, do hereby declare under penalty of perjury the following:

1. I am the Chief Executive Officer and General Manager of Poka Lambro Telecommunications Ltd.

2. I have read the foregoing Petition to Deny, and that the factual statements made therein are true and correct to the best of my knowledge, information and belief.

Patrick Sherrill

March 23, 2021

Exhibit A

STATE OF TEXAS
PUBLIC UTILITY COMMISSION OF TEXAS

Resound Networks, LLC	)	
	)	
	)	Docket No. 51679
Application for Designation as a Eligible	)	
Telecommunications Carrier for Purposes of	)	
Receiving Federal Universal Service Support	)	
From the FCC Rural Digital Opportunity Fund	)	
	)	

APPLICATION OF RESOUND NETWORKS, LLC FOR DESIGNATION AS AN ELIGIBLE TELECOMMUNICATIONS CARRIER FOR PURPOSES OF RECEIVING FEDERAL UNIVERSAL SERVICE SUPPORT FROM THE FCC RURAL DIGITAL OPPORUNITY FUND

Now comes Resound Networks, LLC ("Resound") and pursuant to the Telecommunications Act of 1996, 47 U.S.C. §214(e)(2) (the "Act") and the rules of the Federal Communications Commission ("FCC") 47 C.F.R. §54.201, hereby requests that the Public Utility Commission of Texas ("Commission") designate Resound as a telecommunications carrier eligible under the provisions of Section 54.201(d) to receive federal universal service support. Resound seeks ETC designation in order to receive support from the FCC's Rural Digital Opportunity Fund ("RDOF").

Resound is a Texas limited liability company, having a principal place of business and mailing address of 100 N. Cuyler St., Pampa, Texas 79065. By *Public Notice* dated December 7, 2020, the FCC provisionally selected Resound for RDOF support in seven (7) states, including 82,945 assigned locations in Texas.[1] Resound respectfully requests

[1] *Rural Digital Opportunity Fund Phase I Auction (Auction 904) Closes, Winning Bidders Announced*, AU Docket No. 20-34, WC Docket 19-126, WC Docket No. 10-90, DA 20-1422 (Dec. 7, 2020) (*"Winning Bidder Announcement"*). Resound was selected for support in the following states: Arizona, Arkansas, Colorado, Kansas, New Mexico, Oklahoma and Texas.

that the Commission expeditiously grant this Application. Pursuant to the Public Notice, "by June 7, 2021, the long-form applicant must obtain from all the relevant states or the Commission a high-cost ETC designation(s) that cover its winning bid areas."[2] Thus, in order to ensure the Company is eligible to obtain federal universal service fund ("USF") support necessary to expand its high-speed broadband and voice services to the residents of rural Texas, the Company respectfully requests designation on an expeditious basis, and no later than ninety (90) days after the submission of this Application. For the reasons stated below, designating Resound as an ETC is consistent with statutory and regulatory requirements and the public interest.

Rural Digital Opportunity Fund

The Rural Digital Opportunity Fund is the FCC's next step in bridging the digital divide. On August 1, 2019, the FCC adopted a Notice of Proposed Rulemaking (NPRM) proposing to establish the $20.4 billion Rural Digital Opportunity Fund to bring high speed fixed broadband service to rural homes and small businesses that lack it. On January 30, 2020, the Commission adopted the Rural Digital Opportunity Fund Report and Order, which establishes the framework for the Rural Digital Opportunity Fund, building on the success of the CAF Phase II auction by using reverse auctions in two phases. The Phase I auction selected one hundred and eighty (180) winning bidders in forty-nine (49) states and one (1) territory in order to target over six million homes and businesses in census blocks that are entirely unserved by voice and broadband with download speeds of at least 25 Mbps. A subsequent Phase II will cover locations in census blocks that are partially served, as well as locations not funded in Phase I.

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[2] *Winning Bidder Announcement* at fn. 15.

On December 7, 2020, the FCC announced that Resound was one of the auction winners for Texas with winning bids covering 82,945 locations.[3]

Recipients are required to offer voice and broadband service at or above specified performance levels and must offer Lifeline in the designated census blocks. Recipients must deploy service to 40 percent of the locations by year three of the program, 60 percent by year four, 80 percent by year five and 100 percent by year six.[4] Recipients not meeting these milestones will be subject to a reduction in support.[5]

Pursuant to the *Winning Bidder Announcement*, winning bidders must be deemed financially qualified, as evidenced by the submission of a letter of credit commitment letter by February 15, 2021, and a letter of credit and opinion letter by June 7, 2021, that ensures and confirms the FCC's ability to recover funds in the event of non-compliance with program requirements.[6] Winning bidders also must submit a detailed technology and system design description, including a network diagram that must be certified by a professional engineer.[7] The professional engineer must certify that the network can deliver voice and broadband service that meets the requisite performance requirements to at least 95 percent of the required number of locations in each relevant state.

All correspondence, communications, pleadings, notices, orders and decisions relating to this Application should be addressed to:

Thomas H. Rowland
Kevin D. Rhoda
Rowland & Moore LLP
200 West Superior Street

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[3] *See Winning Bidder Announcement.*
[4] *See* 47 C.F.R. § 54.802.
[5] *See* 47 C.F.R. § 54.320(d).
[6] *See Winning Bidder Announcement* at p. 6; RDOF Order at ¶107.
[7] RDOF Order at ¶90.

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and

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Resound Networks, LLC
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Pampa, Texas 79065
(800) 806-1719
Jordan.pruett@resoundnetworks.com

I. Introduction / Description of Company

Company Background

Resound has successfully operated as a provider of Internet services to residential, business, government and enterprise customers since 2016. Resound currently operates as a provider of high-speed Internet services, serving residential, business and government customers in Texas, New Mexico, and Oklahoma. The Company's customer base includes local communities, counties, first responders, healthcare industry employees and over 59 municipalities. The Company offers customers a competitive selection of voice and data services, delivered via fiber optic and fixed wireless infrastructure. Applicant is a facilities based and reseller of white label VoIP services where voice services are transmitted to the customer premise via applicant's network infrastructure. A copy of the biographies of key Company personnel is included as Exhibit A. The Company's registration with the Secretary of State is attached as Exhibit A-1.

Fixed Wireless Voice & Broadband Information

Resound utilizes cutting edge RF, Fiber, and network technology to provide high-speed broadband and voice service throughout our service area. Resound is a terrestrial fixed wireless/fiber to the home internet service provider. Customers of Resound receive their broadband and voice connectivity via licensed or unlicensed point to multipoint wireless connectivity most typically. Customers are also connected to our network via point-to-point terrestrial fixed wireless link, or fiber to the premise. Our wireless offerings utilize spectrum throughout the RF band, including 5G band in the mmWave space.

Applicant will use hybrid technology solutions to achieve tier and latency combinations up to and including gigabit tier and low latency standards selected. In moderately populated areas, applicant will deploy a small cell network to achieve the gigabit tier and low latency standards. Applicant will utilize mmwave solutions for small cell/5G/mmwave deployments where the middle-mile to feed these nodes will consist of direct fiber circuits, and one or multiple very high capacity point to point terrestrial wireless link(s). In sparsely populated areas, applicant will deploy a point to point network to achieve the gigabit tier and low latency standards. Applicant will utilize tier 1 RF, network and core solutions manufacturers. RF equipment will utilize licensed and unlicensed bands to provide service capable of achieving up to and including gigabit tier and low latency standards beyond the distance range of small cell/5G deployments. Applicant currently has active deployments of each technology solution operating within the gigabit tier and low latency required standards. Applicant will utilize mmwave and other small cell solutions to provide broadband service capable of achieving and exceeding all tier and latency combinations including gigabit tier and low latency standards to end users.

Lifeline Implementation

Resound will implement Lifeline based on the current rules and regulations established by the FCC and administered by USAC. Resound will follow the most recent Report and Orders and Lifeline Reform Order. The customer will have an option of a residential VoIP only package, Internet package of 18/2 or higher, or a bundled voice and Internet package. Resound will price its Lifeline service at $9.25 less than its equivalent non-Lifeline service. Therefore, Resound's Lifeline service will represent a dollar-for-dollar reduction from its comparable non-Lifeline rate and will represent a pass-through of the full amount of support to the qualifying low-income consumer. Resound will allow customers to apply the Lifeline subsidy, on a full pass-through basis to packages of voice and broadband services.

Resound will build a dedicated Lifeline landing page with detailed information, how to apply, and how to contact USAC. Links to the application and worksheet, both English and Spanish, for each state will be available for download. Resound customer service agents will be trained to help customers fill out the form and remit it back to the Company.

Included with the application, Resound will have a cover sheet with information on how to contact Resound for assistance, how to send the application to Resound (both electronically and by mail), and what additional information Resound needs from the customer to process the application. Additional information will include a copy of the customer's current driver's license and a copy of their paycheck stubs/SNAP card/Medicaid card/SSI statement/Tribal program, etc.

Upon receipt of the completed application, Resound's Customer Service Department will process the application through NLAD. Additionally, the customer service representative will determine if the customer is in the network. Based on their qualification status, requested services, and service availability, the appropriate packages will be offered to the customer for sign up and installation.

Resound will submit monthly reimbursement reports to USAC, and will work with USAC on re-certifying any current customers. All documentation related to the customer and Lifeline will be maintained while the customer is with Resound and for a period of three years after service is discontinued.

II. Federal Act

Pursuant to Section 214(e)(2) of the Act, a state commission may, upon its own motion, or upon request, designate a common carrier to be an "eligible telecommunications carrier" for purposes of receiving universal service support under the Act. Section 214(e)(2) also requires that the carrier designated meet the requirements of Section 214(e)(1). Section 214(e)(1) states:

> A common carrier designated as an eligible telecommunications carrier... shall be eligible to receive universal service support in accordance with section 254 and shall, throughout the service area for which the designation is received -
>
> > (A) offer the services that are supported by the Federal universal service support mechanism under section 254(c), either using its own facilities or a combination of its own facilities and resale of another carrier's services (including the service offered by another eligible telecommunications carrier); and
> >
> > (B) advertise the availability of such services and the charges therefore using a media of general distribution.

Section 54.201(b) of the FCC's Rules states that the Commission shall, on its own motion or upon request, designate a common carrier an ETC so long as the carrier meets the requirements of Section 54.201(d), which restates the requirements found in Section 214(e)(1) of the Act. Section 214(e)(2) of the Act and Section 54.201(c) of the FCC's Rules state that the Commission may, in the case of an area serviced by a rural telephone company, and shall, in the case of all other areas, designate more than one common carrier as an ETC for a service area the Commission designates, provided each additional requesting carrier satisfies Section 214(e)(1) of the Act and Section 54.201(d) of the FCC's Rules. Before designating an additional ETC for an area serviced by a rural telephone company, the Commission shall find that such designation is in the public interest.

III. Designated Service Area

Section 214(e)(2) of the Act states that an ETC shall be designated for a "service area" by the state commission. Pursuant to the *Winning Bidder Announcement*, the FCC provisionally selected Resound as a recipient of RDOF funding for 82,945 assigned locations in the State of Texas. Resound is required to receive designation as an ETC from this Commission for each of those census blocks by June 7, 2021 in order to receive the RDOF funding. The list of census blocks that comprise its proposed service area is attached as Exhibit B. Maps of the proposed service area are included as Exhibit C.

IV. Requirements for ETC Designation

A. Resound will offer the services that are supported by federal universal service support mechanisms throughout the service area for which ETC designation is received.

Resound is a common carrier for purposes of obtaining ETC designation under 47 U.S.C. § 214(e)(l). Resound commits to provide (i) voice grade access to the public switched telephone network ("PSTN") or its functional equivalent; (ii) minutes of use for local service provided at no additional charge to end users; (iii) access to emergency services; and (iv) toll limitation services to qualifying low-income consumers as provided in accordance with 47 C.F.R. §§54.400 *et seq.*

i. Voice grade access to the public switched telephone network

In its *USF/ICC Transformation Order*, the FCC modified the definition of a supported service to a technologically-neutral approach, allowing companies to provision voice service over any platform, including the PSTN and IP networks.[8] Thus, the FCC amended Section 54.101 to specify that the functionalities of eligible voice telephony services include voice grade access to the public switched network or its functional equivalent.[9] The FCC further explained that increasingly "consumers are obtaining voice services not through traditional means but instead through interconnected VoIP providers offering service over broadband networks."[10] Interconnected VoIP services "allow customers to make real-time voice calls to, and

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[8] *In the Matter of Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing an Unified Intercarrier Compensation Regime; Federal State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform – Mobility Fund*, 26 FCC Rcd 17663, 17692-93 (2011) ("*USF/ICC Transformation Order*").

[9] Id.; See also 47 C.F.R. §54.101(a).

[10] *USF/ICC Transformation Order* at ¶63.

receive calls from, the PSTN, and increasingly appear to be viewed by consumers as substitutes for traditional voice telephone services."[11] Thus, the FCC concluded that its authority to promote universal services in this context "does not depend on whether interconnected VoIP services are telecommunications services or information services under the Communications Act."[12] Resound will therefore provide voice-grade access to the PSTN by providing interconnected VoIP service throughout the designated service area.

ii. Minutes of Use

"Local usage" means an amount of minutes of use of exchange services, prescribed by the FCC, provided free of charge to end users."[13] The FCC has not specified a minimum amount of local usage that an ETC must offer. Resound will meet the local usage requirement by including local usage in its rate plans. The Company will comply with any minimum local usage requirements adopted by the FCC or this Commission.

iii. Access to emergency services

ETCs are required to provide access to the emergency services provided by local government or other public safety organizations, such as 911 and enhanced 911("E 911"), to the extent the local government in an ETC's service area has implemented 911 or enhanced 911 systems. Resound will provide access to emergency services by providing 911 and E911 for all of its customers to the extent that the local

[11] Id.
[12] Id.
[13] 47 C.F.R. § 54.101(a)(2).

governments in its designated service areas have implemented 911 and E911. Resound has a contract with Atheral for E-911 services.

iv. Toll limitation for Qualifying Low-Income Consumers

Resound does not distinguish between toll and non-toll for its voice offering. To the extent Resound offers a service that distinguishes between toll and non-toll calls, it will offer toll limitation to qualifying low-income consumers at no additional charge.

B. Broadband Internet Access Service

Pursuant to 47 C.F.R. 54.101(a)(2), Resound will provide broadband services with the capability to transmit data to and receive data by wire or radio from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up service.

In the RDOF Auction 904, the FCC permitted bidders to select from among four performance tiers (for speed and data usage) and two latency tiers. For its Texas Census Blocks, Resound committed to offer the Gigabit performance tier ($\geq$ 1 Gbp download and 500 Mbps upload). In all designated Census Blocks, Resound will provide low latency ($\leq$ 100 milliseconds or better).

C. Resound will comply with the requirements of 47 USC 214(e)(1).

Resound commits to, throughout its service area: (A) offer supported services "either using its own facilities or a combination of its own facilities and resale of another carrier's services (including the services offered by another eligible telecommunications carrier)" and (B) advertise the availability of such services and the charges therefor using media of general distribution

i. Resound will use its own facilities to provide the supported services

Resound provides high-speed broadband and digital telephone services to residential, commercial, and enterprise customers utilizing a combination of unlicensed and licensed frequencies. Resound has deployed a next generation fixed wireless network targeting rural markets outside of metropolitan areas that are either unserved or underserved. Resound will provide supported services using its network infrastructure, consisting of last mile connections and network equipment and components. It will also utilize its own facilities to provide backhaul for interconnection via a combination of fiber and wireless microwave technologies.

Applicant intends to use fixed wireless as a complement to fiber to the home deployment to extend the reach of its network in the most sparsely populated rural areas. Fixed wireless allows customers to access gigabit speeds in areas that are unfeasible to cover with a traditional fiber network. Applicant intends to use fixed wireless in areas with a relatively flat topography and sparse foliage. Recent technological advances, and the economics of fixed wireless, open vast new areas to the opportunity of receiving broadband speeds that were previously unavailable. Beginning in July 2020, applicant deployed multiple fixed wireless technologies that are providing gigabit tier and low latency standards to customers in its existing network, demonstrating that the gigabit tier and low latency standards can be met at scale with fixed wireless.

Applicant currently utilizes multi-homed, redundant network core components and diverse interconnectivity partners at enterprise data center locations to guarantee a robust core network. Each component of applicant's network is closely monitored to ensure capacity upgrades occur at no greater than 70% network peak utilization rate.

Applicant currently partners with a variety of interconnectivity partners for redundant, high capacity fiber circuit middle mile architecture to tower sites and retransmission locations. Where fiber circuitry is not available, or is not financially feasible, applicant utilizes very high capacity licensed and unlicensed terrestrial fixed wireless point to point links for middle mile connectivity to tower sites and retransmission points. Middle mile point to point links utilize link aggregation grouping (LAG) for bandwidth aggregation and OSPF/BGP routing protocols to ensure automatic redundancy failover. In densely populated areas customers requiring gigabit tier throughput are serviced with fiber to the home. In moderately populated areas last mile customers requiring gigabit tier throughput are serviced with small cell deployments using mmwave nodes. Customer premise locations beyond the range of small cell connectivity in sparsely populated areas are connected using unlicensed or licensed point to point fixed wireless links. Applicant has experience utilizing licensed and unlicensed spectrum bands efficiently to achieve very high throughput internet connectivity at long range and will continue to deploy wireless infrastructure in newly allocated frequency bands as additional spectrum becomes available.

ii. Resound will advertise the availability of its service throughout its service area.

Resound will advertise the availability of the Supported Services throughout its designated service areas using media of general distribution in a manner that is designed to reach those likely to qualify for such services. Resound agrees to comply with all form and content requirements, if any, promulgated by the FCC and this Commission in the future and required of all designated ETCs, including by disclosing the Applicant's name, that the service is a Lifeline service, that it is a government assistance program, that the

service is non-transferable, and that it is available only to eligible consumers and limited to one discount per economic household.

D. Resound will comply with the FCC's additional eligibility criteria contained in 47 CFR §54.202.

i. Resound certifies that it will comply with the service requirements applicable to the support that it receives.

Resound certifies that it will comply with the service requirements applicable to the support that it receives.[14] Resound commits to provide supported services throughout the designated service area by committing to provide service to customers who make a reasonable request for service. Resound will commence offering service to all qualified consumers after it is certified as an ETC and soon after it receives ultimate approval from the FCC pursuant to applicable build-out requirements.

ii. Resound will provision service that is able to remain functional in emergency situations within industry standards for VoIP services.

Resound will provision service with sufficient back-up power to remain functional without an external power source in emergency situations. Resound is able to re-route traffic around damaged facilities and will be able to manage traffic spikes resulting from emergency situations. Applicant uses solar battery back-up power in the field and battery backup power at its NOC for wireless service. The Company is colocated multiple tier 1 and enterprise data center partners within the state that maintain primary power with redundant generator back-up power with full redundancy for both connectivity and power.

Resound's VoIP service requires an Internet Protocol (IP) connection to the Company's network or public Internet and 120VAC power to function. In the event of a

failure of the IP connection or the local AC power, the service, including the E911 feature, will not function. Upon activation of a customer, Resound will provide the customer with a notification containing clear instructions on the use of emergency services. Resound's VoIP service is not specifically used as a nomadic device. Customers can, through mobile applications, move the device to different locations. The end users registered service address is the only location at which the subscriber is authorized to use the service. The service will work if the device is moved to another location within the United States and connected to a public internet connection; however, this is only authorized when the subscriber updates their service address prior to using the service at the new location by calling the Company's customer service toll free telephone number (1-800-806-1719).

Resound service includes enhanced 911 services (E911). When service is initially provisioned, and any time the subscriber's service address is updated, the service location is automatically transmitted to a third party E911 provider who geocodes the address, associates it with a local Public Safety Answering Point (PSAP), provides an electronic positive affirmation that the address was properly geocoded, and stores the record on our behalf. When a subscriber dials 911, the call is routed to the third party 911 provider and then from there to the local PSAP. The location information is transmitted in the call signaling to the local PSAP, and is visible to the operator in E911 enabled PSAPs. In jurisdictions where an E911 service fee is imposed on Interconnected VoIP Services by law, the fee is passed through to the end user and remitted to the local authority in accordance with applicable policy.

iii. Resound will satisfy consumer protection and service quality standards.

Upon designation as an ETC, Resound will satisfy all consumer protection and service quality standards as provided in 47 C.F.R § 54.202(a)(3), as well as all applicable state specific consumer protection and service quality standards.

E. Designation of Resound as an ETC is within the Public Interest.

Designation of Resound as an ETC will serve the public interest by facilitating the FCC's goal of developing voice and broadband networks in rural, high-cost areas. Under the 1996 Act, "upon request and consistent with the public interest, convenience and necessity" the Commission shall "designate more than one common carrier as an eligible telecommunications carrier for a service area designated" by the Commission.[15] Before such a designation, the Commission shall find that the designation is in the public interest.[16] In its *2005 ETC Order*, the FCC determined that the benefits of increased consumer choice, and the unique advantages of the applicant's service offering are components of a public interest analysis.[17]

Expedited designation of Resound will serve the public interest by ensuring that the company is eligible to receive federal USF support, including through the FCC's high-cost programs. Resound will use this funding to directly advance the FCC's goal of deploying voice and broadband-capable networks in rural, high-cost areas while ensuring that rural consumers and anchor institutions benefit from innovations in communications technology. In particular, Resound will use federal USF support

[15] 47 C.F.R. 54.201(c).
[16] Id.
[17] *In the Matter of Federal-State Joint Board on Universal Service*, Report and Order, CC Docket No. 96-45, FCC 05-46, *20 FCC Rcd 6371, 6389* (rel. Mar. 15, 2005) ("*2005 ETC Order*").

to expand access to high-speed, high-quality broadband and voice provided through interconnected VoIP and fixed wireless for residents of rural Texas. These advanced communications services will provide important connectivity to consumers, businesses, and community anchor institutions, including rural schools, libraries and medical facilities and are a unique alternative to services provided by traditional wireline carriers within the Company's designated service area. Absent designation as an ETC, the federal funds will not come to Texas and instead will be reallocated to a later FCC CAF program.

Designation of Resound as an ETC is also in the public interest because it will promote increased competitive choice, thereby increasing innovation and incenting other carriers to improve their existing networks in order to remain competitive. This will result in greater access to high-speed broadband and voice services, as well as improved service quality for residents of underserved communities in rural areas of the State. Resound's services will provide consumers with additional choices in communications service providers, as well as a variety of service offerings at competitive rates.

Having invested significant resources in rural Texas to provide consumers with high-quality, high-speed broadband and voice services, Resound is well positioned to efficiently use federal RDOF funding to expand its communications infrastructure and service offerings. The company will be able to use federal RDOF funding to effectively expand the company's broadband and voice--enabled networks for the benefit of the residents, businesses, and community anchor institutions in rural areas

of Texas.

V. State ETC Requirements

Financials. Attached as CONFIDENTIAL Exhibit D is a copy of the Company's Financials.

Obligation to offer service. The Company assumes the obligation to offer each of the supported services to any eligible consumer in its proposed service area. Subst. Rule §26.418(h)(1)(B)(ii).

Notice of Application. Resound requests that the Commission provide notice in the *Texas Register* regarding this Application. Attached as Exhibit E is a copy of the Notice of Application to be published in the *Texas Register*. The proposed notice is in compliance with §26.418(h)(1)(A) and is sufficient to notify interested parties of the Company's intent to receive ETC designation. Therefore, it is reasonable and in compliance with applicable law.

Proposed Effective Date of Designation. Pursuant to the FCC's RDOF rules:

> No later than 180 days after the public notice identifying it as a winning bidder [i.e., June 7, 2021], the long-form applicant shall certify that it is an eligible telecommunications carrier in any area for which it seeks support and submit the relevant documentation supporting that certification.[18]

Therefore, Resound seeks an expeditious Order from this Commission with an effective date of thirty (30) days after *Texas Register* notice, per substantive rule §26.418(h)(2)(A), and no later than ninety (90) days after the submission of this Application.

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[18] *See Auction 904 Results Notice*, at ¶ 36.

VI. Expedited Relief Requested

For the reasons set forth above, Resound respectfully requests (i) an expeditious Order no later than ninety (90) days after the submission of this Application designating the Company as an ETC in the State of Texas for the purpose of being eligible to receive federal funding pursuant to the Rural Digital Opportunity Fund; and (ii) such other relief as this Commission deems to be just and equitable.

Respectfully submitted,

s/ Thomas H. Rowland

Thomas H. Rowland
Rowland & Moore LLP
200 West Superior Street
Suite 400
Chicago, Illinois 60654

Counsel for Resound Networks, LLC

AFFIDAVIT

STATE OF TEXAS §

COUNTY OF GRAY §

1. My name is Bryan Waldrip. I am Chief Executive Officer of the Applicant Resound Networks, LLC.

2. I swear or affirm that I have personal knowledge of the facts stated in this Application for Designation as an Eligible Telecommunications Carrier, that I am competent to testify to them, and that I have the authority to make this Application on behalf of the Applicant. I further swear or affirm that all of the statements and representations made in this Application for Designation as an Eligible Telecommunications Carrier are true and correct. I swear or affirm that the Applicant understands and will comply with all requirements of law applicable to an Eligible Telecommunications Carrier.

Signature

Bryan Waldrip
Typed or Printed Name

SWORN TO AND SUBSCRIBED before me on the 29th day of December, 2020.

Notary Public In and For the
State of Texas

My commission expires: 05-10-2021

TAMMI ANN ALLEN
Notary Public, State of Texas
Comm. Expires 05-10-2021
Notary ID 131124825

Management & Technical Personnel

Chadd Giles – Chief Technical Officer

2016 – Present

Resound Networks Chief Technical Officer

1995 – 1998

Dobson Cellular – Network Tech- working on Nortel 800 Mhz AMPs gear, transport services from T1, OC12, OC48 to fiber.

1998 – 1999

Sprint PCS – Network Tech- building Nortel CDMA network from OKC to Little Rock AR

1999 – 2000

ATT Wireless – Switch Tech - working on Nortel AMPS/TMDA switch

2000 – 2016

Verizon Wireless – System Performance Engineer - working on Ericsson, Lucent, Nortel AMPs, TDMA, GSM, CDMA, LTE networks, 1G, 2G,3G,4G and started testing 5G when I left company.

Bryan Waldrip - Chief Executive Officer

2016-Present

Co-founded Resound Networks, a wireless internet service provider, that has exponentially grown in four years into a multimillion-dollar organization with 75+ employees, multiple contractors, and 8,500+ subscribers serving hundreds of locations throughout Texas, Oklahoma, and New Mexico.

1999-2016

Owner/President of commercial, industrial and oil field electrical contracting company that grew into over 100+ employees and numerous contractors serving throughout Texas and Oklahoma.

2006-Present

Manages and owns multiple Real estate investment portfolios with over 30+ properties including rental homes, farmland and commercial real estate.

James Vainrib - Senior Manager RF Engineering and Transport

- 27 years of RF and systems engineering experience.
- Solutions architect for major rf manufacturing and development firms in the United States
- Design, management and implementation of contiguous WiFi systems larger than 1,000 access points.
- Abundant industry certifications in RF and enterprise networking – Cisco, CWNA, Aerohive, Meraki, etc.

Jeff Cortez - Senior Manager of Engineering and Systems Performance

- 21 years of system monitoring and performance engineering at tier 1 mobile and fixed service providers.
- Design, implementation, and maintenance of network monitoring software suite for major West Texas cellular carriers.
- Industry standard certifications in network design, network management, RF, and database engineering.

Tyson Curtis

- President of large Oil and Gas infrastructure business (300+ employees).
- Partner/Manager in large of Oil and Gas production company.
- Managing Director at mid-size Investment Bank.
- Partner/Manager in large Industrial Chemical business.
- Partner/Manager in mid-size Environmental Engineering Firm.

Corporations Section
P O.Box 13697
Austin. Texas 78711-3697

Rolando B. Pablos
Secretary of State

Exhibit
A-1

Office of the Secretary of State

Certificate of Fact

The undersigned, as Secretary of State of Texas, does hereby certify that the document, Certificate of Formation for RESOUND NETWORKS LLC (file number 802187255), a Domestic Limited Liability Company (LLC), was filed in this office on April 01, 2015.

It is further certified that the entity status in Texas is in existence.

In testimony whereof, I have hereunto signed my name officially and caused to be impressed hereon the Seal of State at my office in Austin, Texas on April 06, 2018.

Rolando B. Pablos
Secretary of State

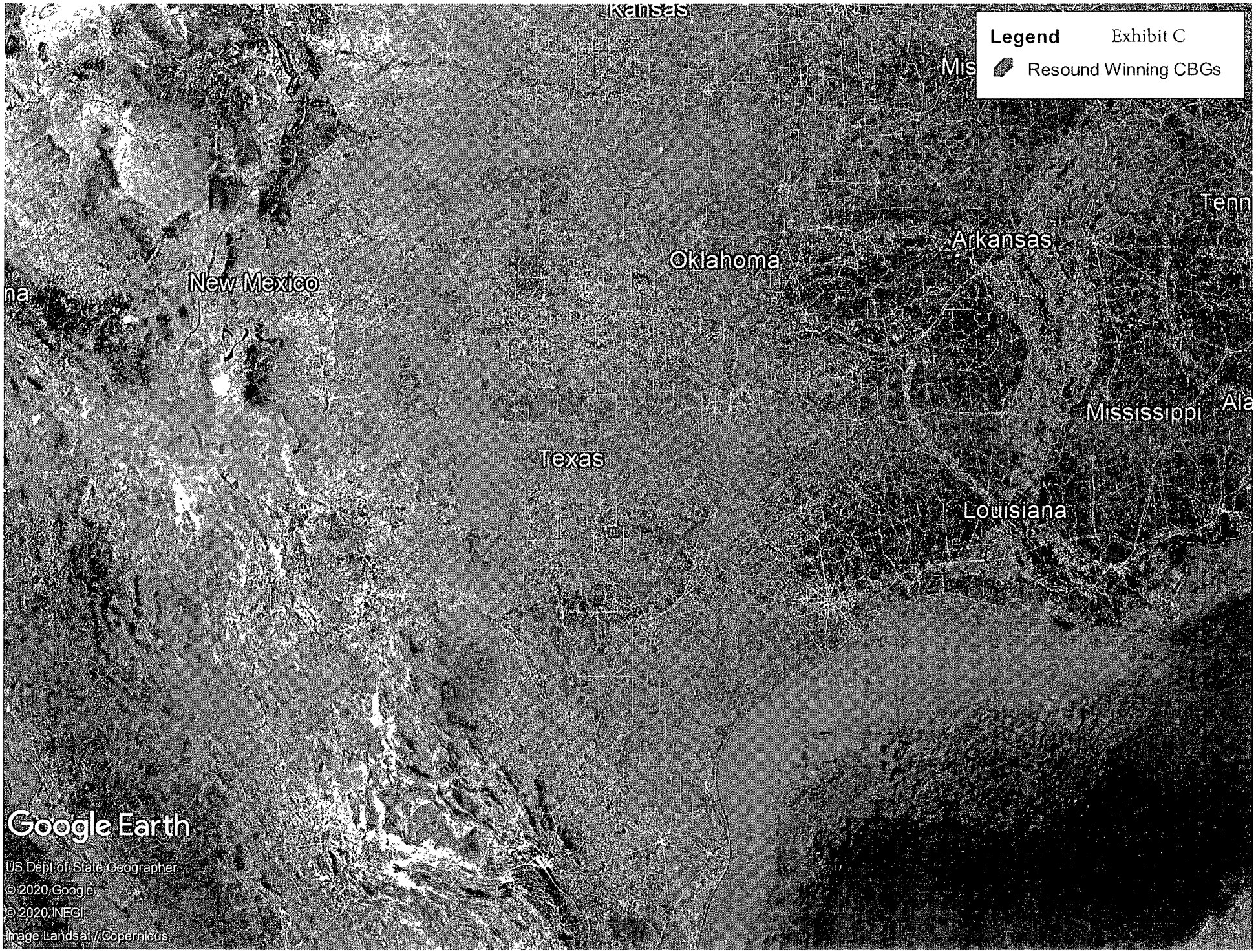
Legend
Exhibit C
Resound Winning CBGs
Kansas
Mis
Tenn
Arkansas
Oklahoma
New Mexico
na
Mississippi
Ala
Texas
Louisiana
Google Earth
US Dept of State Geographer
© 2020 Google
© 2020 INEGI
Image Landsat / Copernicus

Exhibit D

(Public)

Exhibit E

NOTICE OF APPLICATION OF RESOUND NETWORKS, LLC, FOR DESIGNATION AS AN ELIGIBLE TELECOMMUNICATIONS CARRIER AND ELEGIBLE TELECOMMUNICATIONS PROVIDER

Notice is given to the public of an application filed by Resound Networks, LLC with the Public Utility Commission of Texas ("Commission" or "PUC") on [INSERT DATE] for designation as an eligible telecommunications carrier ("ETC") for the following service area: __.

This application has been designated Docket No. _____ by the Commission.

Persons who wish to comment on this application should notify the Public Utility Commission of Texas by _____, 2021. Requests for further information should be mailed to the Public Utility Commission of Texas, P.O. Box 13326, Austin, Texas 78711-3326 or you may call the Public Utility Commission's Customer Protection Division at (512) 936-7120 or (888) 782-8477. Hearing and speech-impaired individuals with text telephones (TTY) may contact the Commission at (512) 936-7136 or use Relay Texas (800) 735-2989 to reach the Commission's toll free number (888) 782-8477.

Exhibit B

Tom Lewis is a licensed Professional Engineer in multiple states and is the Vice President, Engineering at N-Com, a division of JSI. Mr. Lewis has assisted providers with the evaluation and deployment of broadband and technology assessments for over twenty (20) years. He has experience deploying fixed wireless point-to-multipoint (PtMP) and point-to-point (PtP) links with the 60 GHz and other spectrum bands. In the below assessment, Mr. Lewis provides his opinion on the technical capabilities of ReSound's proposed Gigabit wireless deployment. Mr. Lewis has reviewed ReSound's ETC application with the state of Texas[1] and the WISPA technical statement submitted to the Commission on February 22, 2021.[2]

Statement of Tom Lewis, P.E.

In its ETC application for the state of Texas, ReSound claims they will use millimeter wave (mmwave) PtMP for "moderately populated areas", and PtP links in "sparsely populated areas."[3]This document explores the technical capabilities of providing PTMP and PTP gigabit wireless broadband services using unlicensed mmwave and/or mid-band frequencies.

MMWave Capabilities

Unlicensed 60 GHz mmwave equipment capable of offering Gigabit tier service is offered by several vendors today, such as Cambium, IgniteNet, Radwin and Siklu. As stated in the WISPA Technical Statement, PtMP Gigabit links using 60 GHz mmwave spectrum are possible out to 500-700 meters, in optimal conditions. To achieve such a range, however, is dependent on a region's rain zone classification and requires absolute line-of-sight (LOS). Typical urban 60 GHz deployments utilize a mesh architecture with access points mounted on structures such as power and light poles, and LOS typically is the limiting range factor. Our designed links reaching 500-700 meters have involved an access point located on an actual tower to give a clean LOS clearance.

Gigabit 60 GHz PtP links are possible out to 1-2 km, again under ideal conditions. The WISPA Technical Statement makes a vague reference to reliable links being limited to 2-3 km due to rainfall attenuation. Meaningful comparisons of maximum link range must

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[1] *Application of Resound Networks, LLC for Designation as an Eligible Telecommunications Carrier for Purposes of Receiving Federal Universal Service Support from the FCC Rural Digital Opportunity Fund.,* Public Utility Commission of Texas, Docket No. 51679 (Jan. 5 2021) ("Texas ETC Application")

[2] Letter from Claude Aiken, President & CEO, WISPA, to Acting Chairwoman Rosenworcel, WC Docket No. 19-126, *et al*. (filed Feb. 22, 2021) at Appendix A ("WISPA Technical Statement").

[3] Texas ETC Application at 5.

be based on a stated availability percentage factor, such as 99.9% or 99.99% link availability. The WISPA Technical Statement fails to specify the rain fade zone or the availability percentage associated with their claim of Gigabit PtP links of 2-3 km. In our opinion, a reliable broadband residential service should have at least a 99.95% availability (which correlates to a little over 4 hours of annual downtime), and preferably 99.99% (52 minutes annually). Note that the link availability percentage is only related to link interruptions due to weather, and does not include the other unavoidable causes of downtime due to equipment failure, antennas losing alignment, etc. To achieve an acceptable level of link availability, Gigabit 60 GHz PtP links will need to be limited to 1-2 km depending on rain zone location.[4]

Lightly licensed 80 GHz PtP has better reach than 60 GHz, but is more applicable for backhaul than for individual subscribers based on a cost of several thousand dollars per radio, and each PtP link requires a radio on the subscriber end and the tower end. In fact. the WIPSA Technical Statement seems to acknowledge that 80 GHz is really only an option in the context of backhaul transport options.[5] As an example of available equipment, Siklu has an EH-2500 FX product that can deliver a Gigabit full-duplex out to 3.3 km (2 miles), with a 2 foot dish antenna. This example is based on only a 99.95% availability, in rain zone K.

The WISPA Technical Statement also mentions PtP 11 GHz licensed radios, which are capable of reliable Gigabit links in excess of 10 miles. But again, due to the expense of the radios and the licenses, these are not a feasible solution for direct PtP residential service, and WISPA appears to acknowledge this fact by only referencing 11 GHz as a backhaul option to feed a cluster of Gigabit subscribers.[6] To claim 11 GHz as a basis to serve Gigabit subscribers 10 miles away is comparable to a fiber provider claiming to be able to deliver 400 Gbps residential service today just because very expensive 400 Gbps backbone transport optics are in use today.

Mid-Band

The WISPA Technical Statement also notes the 6 GHz band as "becoming available." Indeed Cambium Networks released a paper on its webpage promoting Gigabit wireless for

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[4] *See, e.g.,* Cambium Networks, 60 GHz products FAQ, accessible at https://cdn.cambiumnetworks.com/wp-content/uploads/2020/09/FAQ-cnWave-Implementation.pdf ("*Q: What range can be safely achieved from an AP to a subscriber in 60 GHz? A: The 60 GHz range depends on link availability, frequency band, rain rate and oxygen level. PTP links can support 1,000 to 2,000 meters, and PMP links can support 200 to 700 meters.")*(last visited Mar. 22, 2021).

[5] WISPA Technical Statement at 3.

[6] WISPA Technical Statement at 3.

RDOF using the 6 GHz band.[7] In the paper Cambium claims a Gigabit 6 GHz PtMP max distance of 2.1 km in low interference conditions. In high interference conditions this range drops to 700 meters. The WISPA Technical Statement claims that 6 GHz systems support ranges of several miles, but they are unclear about the speed achievable at these distances.

For sake of completeness, PtP Gigabit can be delivered using the unlicensed 6 GHz band, but to reach much farther than 2 km would require the provider install a 2' or larger dish on each subscriber's home. The cost and size of the customer premise equipment compounded with the limited spectrum available for multiple 6 GHz PtP links from a single tower, is likely the reason the WISPA Technical Statement does not propose 6 GHz PtP for residential Gigabit service.

FCC Performance Testing and Wireless

As documented above and elsewhere such as the NTCA/Vantage Point paper,[8] there are no feasible wireless technology candidates to deliver rural "sparsely populated areas" Gigabit residential service, and certainly not with the scalable capacity to meet the RDOF requirement of being able to support a 70% subscriber take rate. However, a wireless operator could potentially adopt a testing strategy of deploying high-end PtP links, e.g. 11 GHz, ONLY to the handful of HUBB locations selected for FCC testing. Such targeted testing could allow them to produce passing test results without meaningfully measuring the performance of their normal wireless operation.

[7] *See* Rural Digital Opportunity Funds Resources for Cambium Networks, *Delivering Gigabit Tier Service with Wireless Using 60 Ghz or 6 Ghz Band*, accessible at https://www.cambiumnetworks.com/ruraldigital/ (last visited Mar. 22, 2021).

[8] *See, generally,* Letter and Technical Whitepaper from Michael R. Romano, Senior Vice President, Industry Affairs and Business Development, NTCA, to Marlene H. Dortch, Secretary, FCC, AU Docket No. 20-34, WC Docket Nos. 19-126 and 10-90 (filed Feb. 1, 2021), Vantage Point Solutions Technical Whitepaper by Larry Thompson, PE.

CERTIFICATE OF SERVICE

I, Colleen von Hollen, of Herman & Whiteaker, LLC, 6720-B Rockledge Drive, Suite 150, Bethesda, MD 20817, hereby certify that the foregoing "Petition to Deny and Request for Informal Action" was sent via electronic mail to the following representative of Resound Networks, LLC, on this 26th day of March, 2021:

Jordan Pruett
Resound Networks LLC
100 North Cuyler Street
Pampa, TX 79065
Email: regulatory@resoundnetworks.com

/s/ Colleen von Hollen

Colleen von Hollen